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Site as Experiential Playground: Artistic Research for a Learning Landscape

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Abstract: The contemporary American schoolyard remains an under-utilized opportunity for experiential learning. Contemporary public schoolyards are often designed in response to perceptions of liability and a limited interpretation of child development. This paper examines a design proposal for an un-built, natural learning landscape through two lenses: epistemology and form. First, we propose that designers of school landscapes embrace artistic research as a humanities mode of knowledge. We illustrate an artistic research process using the design of an experiential schoolyard. Second, we present an un-built, primary grade schoolyard design as an exemplar for natural play and learning. Beginning with literature review of research on play and experiential learning, the proposed design layers child development, humanities, and landscape architectural knowledge to form a provisional understanding of how form and space may affect the child's play experience.

Keywords: Landscape Architecture, Schoolyards, Landscapes of Learning, Artistic Research, Experiential Schoolyard

Introduction

Across the United States, more than 34 million children are enrolled in public primary schools, defined as pre-kindergarten through eighth grade (National Center for Education Statistics 2010). Publicly educated children in the United States spend approximately seven hours per week day in the school environment, not including before and after-school programs (Center for Public Education). Most primary school students have two or three brief recesses spent out of doors each day, as weather permits. Yet the contemporary American schoolyard remains an under-utilized opportunity for experiential learning outside of the classroom.

The formal and material qualities of outdoor space can engage a child's propensity to learn through experience. This paper examines a design proposal for an un-built, learning landscape on two levels, an epistemological level and a formal level. We propose that those who design environments for children embrace a rich and iterative design process and consider artistic research as a humanities mode of knowledge. We present an un-built design exemplar for an experiential, topographic schoolyard in the Midwestern United States, designed through an artistic research process. The designer, Rebecca Melvin, uses poetry as an aesthetic and metaphorical inspiration to deepen her creative process for the design of a functional schoolyard that is also a sculptural work of art.

The central question of this paper is whether an artistic approach to the design of schoolyards merits closer attention from those engaged in regulating, funding, designing, and administering public school settings. We contend that an artistic research process leads to particular landscape forms that nonetheless can inform future researchers and designers because "... in making the particular vivid...its qualities can be experienced and ... the particular has a contribution to make to the comprehension of what is general" (Eisner 1981, 7). In artistic research " 'form is content' " (Shahn cited in Eisner, 7) and the researcher's role is not only to create form, but to reveal the "...tacit knowledge that is situated and embodied in specific [form]..." (Borgdorff 2012, 53).

We first provide background on the broader problem of public, primary school playgrounds in the United States and operationalize definitions of artistic research and experiential playgrounds. Next, we present the specific conditions and dilemmas of Northview Elementary School in Manhattan, Kansas, as well as the designer's intent and process for designing the un-built, experiential playground. The playground is designed to support the school's children, who

range in age from five to twelve years, thus spanning the pre-operational, concrete operational, and formal operational developmental stages, with most children in the latter two stages (Addo-Atuah 2012). These students need operational play experiences, categorized as “active/functional play; constructive play; exploratory play; games with rules and natural play” (Addo-Atuah 2012, 41; categories adapted from Omet 2000). We conclude with an analysis of the forms and spaces of the proposed design, making clear the outcome of this artistic research.

Status Quo of Most American Schoolyards

Late nineteenth and early twentieth-century schoolyard design emphasized development of “...muscles and lungs through physical exercise” (Herrington 2004, 104). This emphasis upon gross motor development is still evident in the American playground, which is dominated by sports fields and manufactured play equipment (Herrington 2004). A typical public school playground in the United States is a sterile, unbending environment of pre-fabricated plastic and asphalt – a less than ideal setting for experiential learning and free play (fig. 1).



Figure 1: Free play area in a California, United States primary schoolyard.

Source: Vickrey 2011, used with permission.

A nation-wide survey of 204 American elementary school playgrounds conducted in 1985 found that late twentieth-century school playgrounds were not fulfilling their potential to foster child development and contained many safety concerns, often related to playground maintenance (Bruya and Langerdorfer 1988). While the report summarized the contemporary playground’s ideal consideration of “functionality, safety, and aesthetics” to promote “socio-emotional and cognitive development” (1988, 46), the survey itself focused upon the dangers of poorly designed and maintained play equipment, a dominant concern of the time. Nearly thirty years later, safe equipment is an achievable priority for American schools, but aesthetics and provision for cognitive development remain elusive.

The twentieth-century playground movement, based in John Dewey’s philosophies of education motivated the 1985 survey of American schoolyards, as well as much research and action to improve playgrounds (Tai et al. 2006, Solomon 2005, see also Dewey 1906). While the playground movement strongly influenced the design of park, daycare center, and private school playgrounds as places for experiential learning (Frost 2010), design of public schoolyards still seems to focus upon gross motor development (Herrington 2004).

Defining Artistic Research as a Mode of Knowledge for Landscape Architecture

Landscape architecture, a licensed profession dealing with the design and stewardship of exterior environments (Starke and Simonds 2013), has a place in the humanities. Landscape is a complex product of culture in place (Cosgrove 1998, Tuan 1977). As social and artistic cultural products, built landscapes are influenced by other developments in the arts (Richardson 2009, Weilacher 1999).

Landscape architects depend upon arts and humanities knowledge to create well-designed landscapes. Arts and humanities create knowledge in several ways: most commonly understood

is the descriptive study of events and artifacts (history and art history), but artistic practices also produce artifacts which themselves can be seen as evidence of knowledge (Routio 2003, Borgdorff 2012). Unfortunately, artistic practices and their potential to influence the built environment receive little mention in current epistemology for landscape architecture audiences (Brandt et al. 2010, Deming and Swaffield 2011).

Specialists in research methods have described the act of designing in several ways. Some refer to “projective design,” describing design activities as research only if they occur as part of a normative research process intended to produce generalizable results (Deming and Swaffield 2011, 205). Others describe an informed and carefully documented design process as “artistic research” (Routio 2003; Borgdorff 2012, 37-39). A bold interpretation of the scholarly value of design activities is that the production of specific, not generalizable forms is a valid, “artistic approach to research” (Eisner 1981, 7; Borgdorff 2012). Henk Borgdorff, a leading thinker in the contemporary movement to recognize artistic research, asserts that knowledge is created through artistic production and that “...there is no fundamental separation between theory and practice in the arts” (2012, 38). Central to Borgdorff’s argument for artistic research is the assertion that those who create a work are better positioned to expose the process and discoveries embodied in the work than are unbiased outsiders. The following statement by Borgdorff in defense of artistic research applies equally to landscape architectural design, which enjoys a long history of recognition as a creative, artistic field: “Concepts and theories, experiences and understandings are interwoven with art practices; and, partly for this reason, art is always reflexive. Research in the arts hence seeks to articulate some of this embodied knowledge throughout the creative process and in the art object” (2012, 39).

Attaching the term artistic research to the action of design begs a question: why not simply refer to the activities undertaken during design as ‘creative activities’? Creative activity can be interpreted quite loosely, and to some, implies merely a cathartic process in which the designer releases personal expression. For example, H.G. Wells famously (and pejoratively) described creative activity as a “ ‘release of excess energy [akin to sports]’ ” (quoted in Read 1966, 6). By contrast, ‘artistic research’ makes clear that discovery occurs in the course of a design process.

We propose that a rich, iterative design process which is influenced by diverse bodies of knowledge and which results in proposed landscape form may constitute artistic research. An artistic research approach stands as a counterpoint to the merely functional approach characteristic of contemporary public schoolyard design.

Experiential Learning and Free Play

All areas of a primary grades schoolyard can potentially be settings for experiential learning. But too often, designers of schoolyards focus only upon a few dimensions of the landscape: perceived liability, ease of maintenance, and providing for a narrow segment of developmental activities appropriate to children in the primary grades, such as providing for gross motor development and games with rules (e.g. sports). Despite the assumed superiority of turf and asphalt schoolyards as setting to accommodate structured activities for physical health, free play can be as effective as structured physical education in improving children’s physical fitness (Kolbe 2012).

Free play in early childhood is recognized as a significant activity in developing focused attention needed for more complex learning, with benefits of free play increasing as children approach kindergarten age (Ruff et al. 1990). A key aspect of free play is the opportunity for children to choose their own activities and to push the limits of what they have previously explored—in other words, to take voluntary risks. Through qualitative, comparative case studies of two Norwegian playgrounds, Beate and Sandseter (2009) determined that while both contemporary (man-made materials and play apparatus) and natural playgrounds can offer affordances for risky play, a natural playground offers more potential affordances, so long as it includes a variety of topography and natural materials. In addition, Beate and Sanseter point out the significance of “mobility license” to the children’s perceptions of freedom during play—the

willingness of teachers and caregivers to allow children to move freely in a landscape, versus an overt confinement with a fence or other boundary (2009 445).

Experiential learning is understood as a process of constructing knowledge through iterative exposure to abstract and applied (often kinesthetic) activities (Kolb and Fry 1975). Since emerging as a learning model in the 1970s, experiential learning has been applied to formal, subject learning with mixed results (Kirschner et al. 2006). Despite criticism of experiential learning approaches in formal education, experiential learning remains a valid model for the informal and exploratory learning of childhood play. In order for a site to effectively foster experiential learning and free play for a kindergarten through sixth grade audience, thought must be given to the experience of the space fostered by the form of the landscape itself.

Defining the Experiential Schoolyard through Affordances for Learning and Play

The theory of affordances was published by James J. Gibson in 1977 as a way to explain the complex relationship between humans and the lived world. Later definitions of affordances synthesize Gibson and successive researchers' definitions: affordances are "dynamic reciprocal relationships between animate persons and their environments" (Letiche and Lissack 2009, 61; see also Heft 1999, 2010).

There is no single list of landscape affordances that will create an ideal schoolyard for free play and informal, experiential learning. However, several researchers have found that an accessible pathway design which provides access to a variety of experiences is more significant than the particular design attributes of a children's garden (Hussein 2012, Moore and Cosco 2007) and the same may be true of experiential schoolyards. A well-designed path can maximize contact with many experiences, allowing affordances to develop between child and vegetation, topography, water features, and other elements in a design. Similarly, designing for human comfort year round, which in temperate climates means the inclusion of trees and other canopies for shade as well as sunny areas for cool days, will maximize the child's opportunity to interact with the landscape (Cosco and Moore 2009, Johnson 2000).

A seminal theory of play, known as the theory of 'loose parts' states, "In any environment, both the degree of inventiveness and creativity and the possibility of discovery are directly proportional to the number and kind of variables in it" (Nicholson 1972, 6). In other words, a child's propensity to learn and to be creative is more effectively indulged if the child is allowed to manipulate the environment. Environments for children should focus on providing materials and opportunities for exploration and reorganization of parts within the 'whole' of the playground. Thus we define an experiential playground as a landscape intentionally formed to include topographic diversity, natural material diversity, and 'loose parts' that afford children diverse, independent experiences of nature.

The Case of Northview School: Site-Specific Dilemmas and the Designer's Process

Context

Northview Elementary School (Northview) is the largest public school of its kind in Manhattan, Kansas, a city of approximate population 50,000 in the Midwestern United States. The school serves more than 550 students of diverse socio-economic and ethnic backgrounds. More than half of Northview students live in poverty (as gauged by eligibility for government-sponsored free breakfast and lunch programs) and nine different primary languages are spoken by students in their homes (Unified School District 383 2010 and Kingery-Page et al. 2010).

Northview School, like all Kansas public schools, uses a curriculum based upon assessable standards in math, English language arts, social studies, and science. In addition, Kansas schools conform to the United States' national Core Curriculum Initiative of standards for math and English language arts (Kansas Department of Education). Northview is typical of local elementary schools: students also receive instruction in other subject areas (such as art and music), but spend only a minor amount of time engaging these non-assessed, curricular standards.

The Northview School facility recently underwent construction, completed in 2011. As a result of construction activities, the landscape, particularly a play field east of the main school building, was disturbed. The play field east of Northview School served as a dumping ground for excess soil from recent construction projects, not only from the Northview site, but also from school projects and other sources across the community (fig. 2).



Figure 2. School district-owned field east of Northview School, prior to restoration.

Source: Melvin 2012.

An existing relationship between Katie Kingery-Page (co-author of this paper and faculty mentor to Rebecca Melvin) and the Northview School principal and teachers fostered input from school stakeholders throughout Rebecca Melvin's design process to re-imagine the east field. The resulting design solution for a six and one half acre site adjacent to Northview Elementary School encourages free play, direct contact with nature, and expands the experiential quality of a contemporary playground.

Emerging Values for the Experiential Playground Design

The field presents both problems and creative opportunities identified through stakeholder conversations, site analysis, background research and design activities. Four major values emerged through the artistic research process.

Provide Safety and security: Both the material and form of the field landscape need attention. The site is not used for school activities because it was the unfortunate recipient of illegal soil dumped by local developers. Until the soil is removed or redistributed and capped, the site cannot be used by school children (fig. 2). The current height of spoil mounds blocks sight lines through and into the field. These visually restricted zones create potential places for illicit activities. Although the soil volumes currently disrupt the site’s function as a schoolyard, these volumes provide an opportunity to experiment with topographic forms.

Create stormwater drainage: The site cannot be used as a school facility in any capacity because the soil is significantly wet much of the time. Un-vegetated waste soil mounds provide very little infiltration capacity for stormwater and cause pooling; site runoff is neither diverted nor absorbed. Stormwater runoff must be addressed to create a usable landscape.

Northview School is located within a floodplain. Most water originating higher in the watershed is diverted through local infrastructure. Thus, movement of water through the watershed is not a primary contributor to the volume of surface water that ends up on site. The volume and frequency of precipitation that lands directly on-site is of greater significance to managing stormwater. Appropriate slopes and infiltration areas must be created. The need for infiltration areas provides an opportunity to experiment with concave landforms and a variety of sensually rich plant materials.

Recognize critical importance of the school as a neighborhood destination: The neighborhood immediately surrounding Northview School has locally interconnected streets but is disconnected from the larger city due to an arterial highway (fig. 3). This formidable pedestrian barrier separates people traveling by foot or bicycle from most parks, a zoo, and other amenities for children. Therefore, the Northview School is a key destination for children of the neighborhood; it is currently used from sunup to sundown (Kingery-Page et al. 2010).

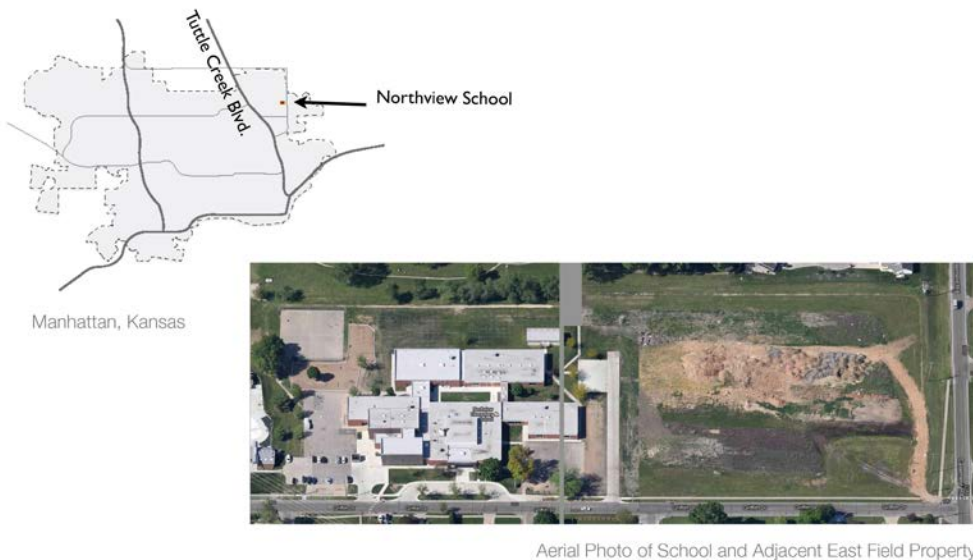


Figure 3. Tuttle Creek Boulevard (Kansas Highway 24) is a five lane arterial roadway which creates a pedestrian barrier between the school neighborhood and most recreation amenities in the city.

Source: Melvin 2012, adapted from Google Maps.

Designing the schoolyard as an improved destination gives reason to examine current pedestrian path conditions throughout the neighborhood. Currently, most streets have sidewalks and the neighborhood has some pedestrian trails. However, a collector street without sidewalks makes it dangerous for children to walk to a local nature park or to an adjacent trail head for the city's community-wide trail (known as the Linear Trail). With relatively few additions, including the proposed paths of the experiential playground at Northview, all local neighborhood amenities could be connected by public trails.

Emphasize the importance of experiencing nature in a natural play environment: Playing, in action and in concept, is an optimal environment for learning, because in an atmosphere of experimentation one is incapable of failing (Brown 2008). Children learn about themselves, their peers, and their environment through play. They establish a relationship with their physical environments through play.

Play, especially childhood play, often results in long-term positive memories and fond associations. Attaching meaning to objects and experiences is a trait inherent to human cognition. "Meaning accrues as individuals develop a field of relationships between themselves, place and activities" (Clements 2011, 242). The buildup of these relationships is what gives an experience meaning. A meaningful interaction with nature is one that challenges the individual's "range of perception and cognition" (Clements 2011, 243). A lack of meaningful experiences of nature in childhood correlates to placing a low value on protecting the natural environment in adulthood (Hines 2005). One response to the assertion that it is important for a child to have daily meaningful contact with nature (Hines 2005, Louv 2011) is that the playground can be designed as a natural environment. Creating a playground that connects children to nature requires the landscape of play to provide affordances of materiality and form so that the child cognitively links the playground with his or her idea of nature. Children should be allowed to create and destroy, climb and slither, uncover and bury, participate in and manipulate the natural world (fig. 4). The child should be allowed freedom to develop inquisitiveness about the natural world. Thus a fourth value for the design of Northview's experiential playground is to foster free play in a nature-based landscape.

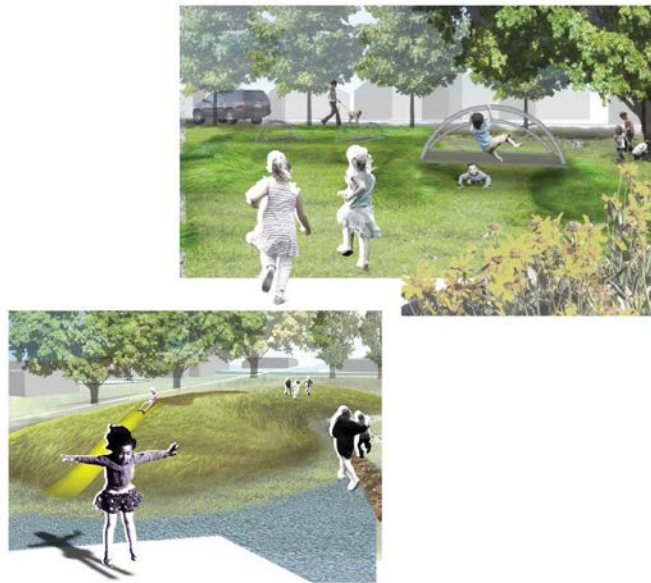
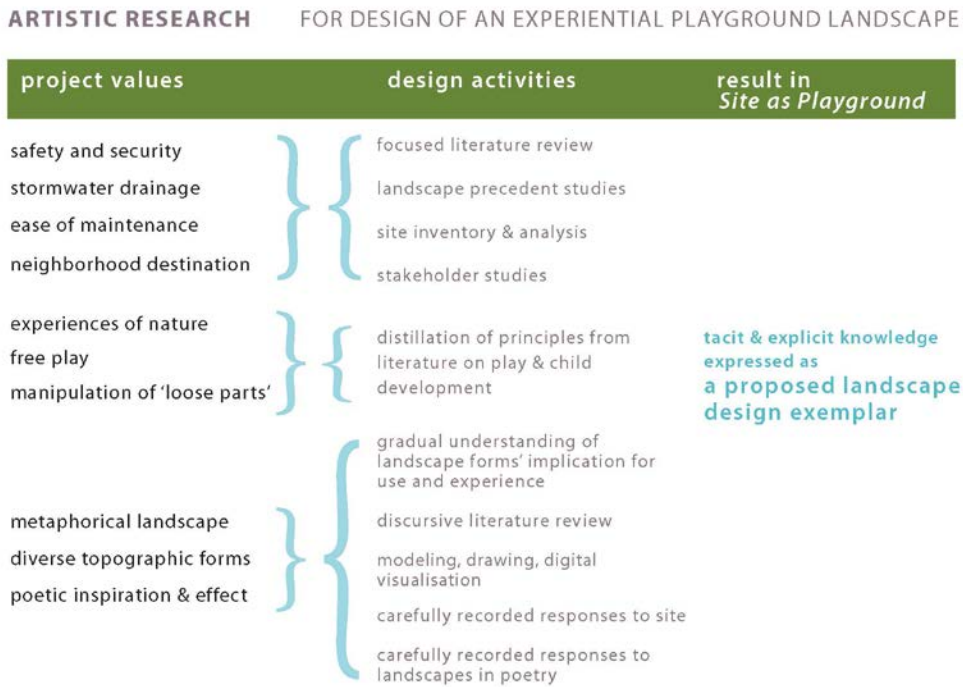


Figure 4. Natural play experiences suggested by the affordances of Northview's proposed experiential playground design.

Source: Melvin 2012.

The four values for site design encapsulate concerns and interests voiced by school administrators, teachers, children, and the designer. These, as well as other project values defined by the designer, influenced design activities and results (table 1).

Table 1. Project values emerge during artistic research.



Source: Kingery-Page and Melvin 2012.

Designer’s Intent

The design for Northview School’s east field proposes a nature-based, artistically crafted alternative to the typical playground. By carefully recording the values for an experiential playground deemed significant by the designer (Rebecca Melvin) and stakeholders of the school property, we build a case for using an artistic approach to the process of design. By documenting the use of humanities knowledge in the design process (drawn from poetry) and presenting the final embodiment of this knowledge, we assert the continued significance of humanities knowledge to designers who influence the character of built environments.

Beginning with documented research of play, the project layers social science, landscape architecture, and humanities knowledge to form a provisional understanding of how spatial form affects human experience in the schoolyard. The design process for Northview School’s experiential playground draws from empirical literature on how children perceive and use landscapes (summarized in preceding sections), as well as stakeholder interviews and observation. Input from the school principal, a focus group of teachers, and workshops with children enrolled in after school programs (Addo-Atuah 2012, Melvin 2012) influence the proposed design. Despite a lack of familiarity with natural play among children surveyed, many ideas gathered from the children were less concerned with the physical construct and more focused on the desired feeling to be attained by interaction with the setting.

Melvin's working process included study of designed landscape precedents, study of landscape materials, and poetry. The designer used American transcendentalist, modernist, and post-modernist poetry as a source of inspiration to evoke feeling through landform. Perhaps most importantly, Melvin developed a personal relationship with the site achieved by sustained site visits and clay modeling of initial ideas.

Poetry and Design Process

Inspiration for designed forms can originate from many sources; the working process itself can foster inspiration. During this project, inspiration and momentum was accumulated through sustained site visits and modeling. Initial site models crafted spontaneously, from impulse, engendered the idea to layer emotive themes from poetry upon the site (fig. 5). Through many iterations and gradual refinement of ideas and forms the designer determined a typology of form to guide the final design decisions.

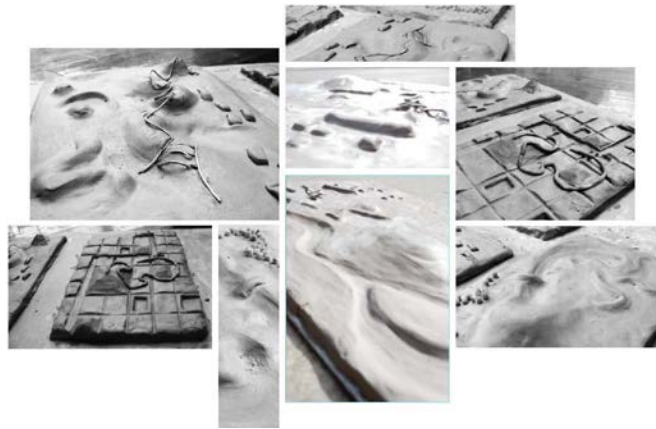


Figure 5. Preliminary form studies of the Experiential Playground in clay.

Source: Melvin 2012.

Nature themes in American transcendentalist, modernist and post-modernist poetry inform the Experiential Playground design. Melvin analyzed the poems emotively and made connections between the formal characteristics of space and these emotive qualities. A focus upon experience of space, direct contact with nature, and elimination of stock play apparatus encouraged the designer to think about the space compositionally and to design a landscape in which children are compelled to create their own story. The design solution considers topographic forms in poetic terms, such as rhythm, repetition, balance and flow; but also, poetry as embodied emotion shapes the project.

In the United States, as in other countries, there exists a cultural understanding of nature. This cultural understanding is undoubtedly an over-simplification, as an ecologist's understanding of natural systems is far more complex than what the average person understands. These complex systems are often more accessible to the average person when described through metaphor. The cultural understanding projected upon and drawn from the landscape affects human interaction with landscape: "Metaphors are enframing devices that make the world knowable while always already precluding still other ways of ordering the world" (Demeritt 1994, 181).

In the initial phases of this project, the designer read a variety of poems (table 2) that use metaphor to describe human experiences in nature, human understanding of nature and

memorable childhood experiences. The human fascination with nature is one whose marvel does not fade with the passage of time. Many poets capture in verse the emotions and nostalgia surrounding human relationships with nature.

Table 2. Relationship of poetry, metaphor, and emotion.

METAPHOR IN THE LANDSCAPE

Frost, R. <i>The Last Word of a Bluebird</i>	That her little bluebird Wanted me to bring word And do everything! And perhaps in the spring He would come back and sing	Childhood; Nature	Trust; Awe
Thoreau, H. Nature.	For I had rather be thy child And pupil in the forest wild Than be the king of men elsewhere And most sovereign slave of care	Nature	Affection
Saenz. <i>Growing Memories.</i>	the boy ran among the rows as if the fields were forests planted for his games. The boy knew nothing of what the earth demanded. You remember.	Childhood	Enthrallment
Snyder. <i>The Dance.</i>	so she entered the cave- shut it up with a rock- made the world dark	Nature	Shock; Anxiety
Snyder. <i>The Dance.</i>	stamp of masked dancer piercing tangled channels putting salt and gold dust into the sea	Nature	Dismay; Joy
Graham. <i>Enter a Cloud.</i>	gently disintegrate me. said nothing at all.	Nature	Anticipation
Roher. <i>Childhood Stories.</i>	they learned to turn off the gravity and we all rose into the air	Childhood	Joy; Surprise
Oliver, M. <i>October.</i>	so this in the world I'm not in it, It is beautiful	Nature	Awe; Sadness
Raine, K. <i>Solloquies.</i>	Endlessly kind, the language of nature Too simple to be read By such as I	Nature	Awe
Frost, R. <i>A Peck of Gold.</i>	And I was one of the children told Some of the dust really was gold	Childhood	Trust; Awe

Source: Melvin 2012.

The development of human emotion has evolved as a tool for survival (Plutchik 1981). Psychologist Robert Plutchik classified the basic human emotional responses: anger, fear, sadness, disgust, surprise, anticipation, trust and joy, arranged as a continuum represented by a wheel (1981). Plutchik’s theory explains that all further emotions result from some combination of these eight basic emotions. These emotions and the attached derivative emotions can occur in varying degrees of strength.

In order to engage the study of poetry in a more significant way, the designer completed an analysis of selected works (table 2). The poems chosen evoke a strong emotional response to spatial experience, nature, childhood, or the relationship between culture and nature (for examples, see Frost 1968, Oliver 1992, Raine 2000, Snyder 2008, Thoreau 1943). Melvin classified the poems with a keyword or topic and selected phrases or a stanza of particular significance to the topic. Finally, an emotion (from Plutchik’s emotion wheel) was attached to each selection. This analysis is not meant to devalue or oversimplify the poetry. Rather the

exercise of systematically deconstructing the poetry in order to categorize corresponding emotions helped to determine preliminary topographic spaces in the schoolyard design (fig.6).

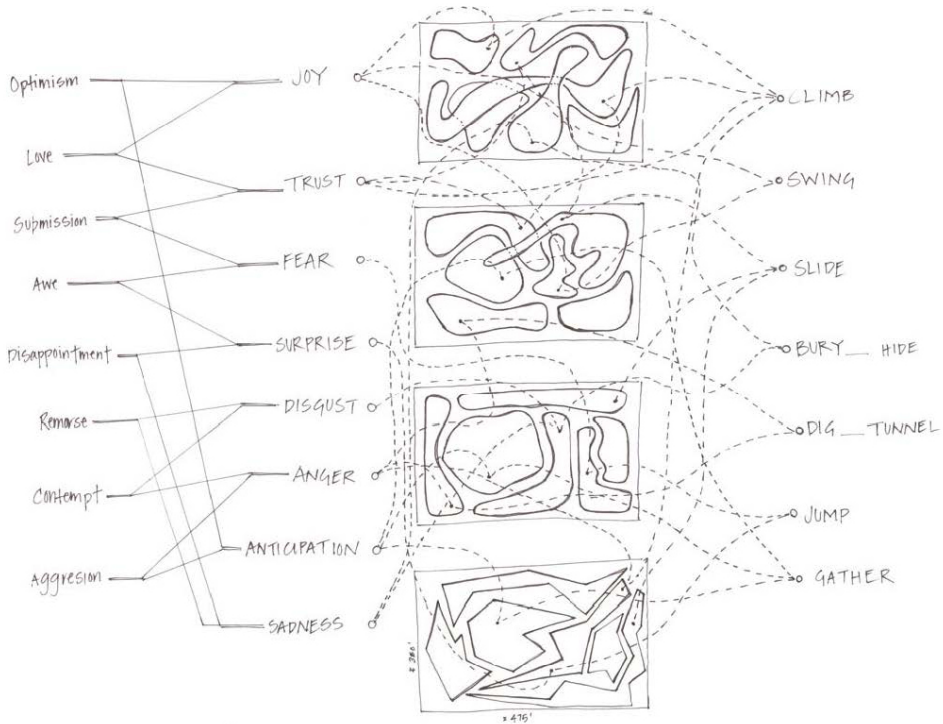


Figure 6. A step toward the generation of form in an artistic research process.

Source: Melvin 2012.

Topographic spaces are “areas of flatness, mounds, hollows, plateaus, terraces, and subterranean spaces” (Dee 2011). Elements common in poetry became very important as the spaces were designed. The following poetic devices or elements guided the development of the design compositionally (Poetry Foundation 2003):

Metaphor: a comparison that is made directly.

Accentual verse: verse whose meter is determined by the number of stressed syllables.

Meter: the rhythmical pattern of stressed and unstressed syllables in verse.

Stanza: A grouping of lines separated from others in a poem, can be used to mark a shift in mood, time or thought.

Cadence: A pattern of rhythm in natural speech, or in poetry without a distinct meter.

Refrain: A phrase or line repeated at intervals within a poem.

Rhythm: An audible pattern in verse established by the intervals between stressed syllables.

Topographic, vegetated spaces were developed through intuition, while being mindful of the lessons internalized from precedent studies, poetry analysis, site conditions and stakeholder input. Paths, buffers, baffles, edges, focal areas and areas of transition were also considered programmatically and compared to elements of poetry. For example, in the way that meter guides and regulates a poem, so a path can provide a framework in a garden. The final design emulates the relationship between poetic elements, fostering a landscape of integrated hierarchy and opportunities for learning.

Elements of the Landscape Fabric

The Experiential Playground is composed of five elements, woven into a continuous fabric of landscape. The elements were defined through programmatic experimentation and categorization of space. The final organization displays the most balanced arrangement of defined spaces; field, mound, play structure, shaded buffer, and swale (fig. 7).

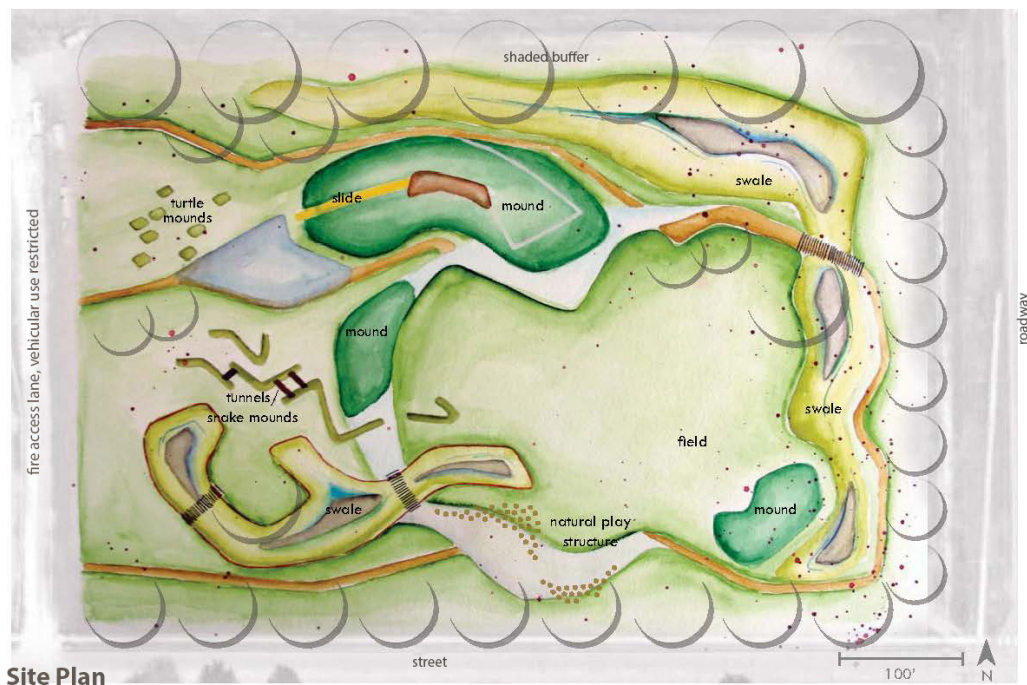


Figure 7. Site plan of the proposed Experiential Playground.

Source: Melvin 2012.

The final design responds to structural elements of poetry through balance, repetition, meter, sequence, and accents within the composed space. For example, the three mounds echo each other in formal gesture and orientation. Similar to the way that meter, rhyme, or alliteration can create association in a poem, the mounds respond in formal quality, unifying the site.

Variation in relationships between path and space throughout the site create mystery for children using the schoolyard. Directly outside the site boundary, a sidewalk (built path) wraps along the south and east edges of the site. Falling under the canopy of proposed trees, this linear space becomes a vegetated edge (see Dee 2001 for definition of edges in a landscape fabric).

Primary circulation happens along the edge of the site enabling a pass-by relationship to spaces (see Ching 2007 for path to space relationships). Paths passing-through space occur in the swales (water paths) and across the swale and the central mound (topographic path). Finally, a topographic path that winds up and across the main mound creates the third type of path-space relationship, a path terminating in the space at the bottom of the slide.

Elements of the landscape fabric create unity through figure-ground relationships (fig. 8). “Figure-ground” refers to a property of gestalt perception in which there is a tendency to see parts of a visual field as solid, well defined objects standing out against a less distinct background (Ching 2007, 96). Balancing negative (space) and positive (landform) to create a unity of figure-ground within a framed composition became chief goals in early design iterations. In the final solution, Northview’s Experiential Playground addresses these concerns by reorganizing the elements in an asymmetrical balance.

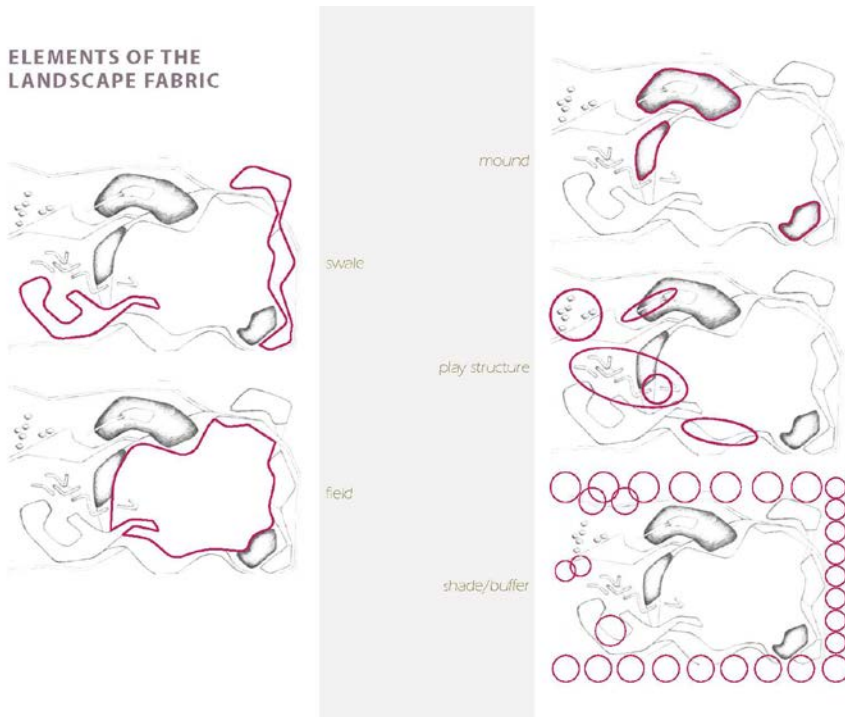


Figure 8. Elements of the Experiential Playground plan.

Source: Melvin 2012.

Conclusions

Returning to the site-specific dilemmas of Northview School and the importance of natural play, we evaluate the outcome of an artistic research process leading to the schoolyard design by revisiting the project’s four values.

Implications for Safety and Security

Safety through natural surveillance is encouraged by the degree of visibility into and throughout the site (fig. 9). Sight lines from the playground, into the playground from the school, and into the site from the neighborhood are preserved or created. The Experiential Playground serves as

both a schoolyard and a public park. It is important that community members feel comfortable allowing their children to play on the site. In order to create a manageable scope of surveillance by a supervising adult, the site is designed to be divisible between the east third and the west two-thirds. This organization allows the person in charge to use site features to set a reasonable limit on the play area, depending on the age of children using the site.



Figure 9. Design for safety and security includes allowing for natural surveillance through the site, shown through section-elevation views (reduced and not to scale).

Source: Melvin 2012.

Implications for Stormwater Drainage

A system of negative landforms directs stormwater away from the school building, open fields and mounds of the schoolyard. Stormwater basins and swales are sized to accommodate the rainfall on site during a 100-year storm event, defined for Manhattan, Kansas as approximately seven inches of rainfall received in a twenty-four hour period (fig. 10).

Consideration for sight lines, slopes and infiltration areas constrained the amount of existing soil that could be re-used. However, the Experiential Playground design retains 55% of the existing waste soil volume, a potential cost saving for the school district.

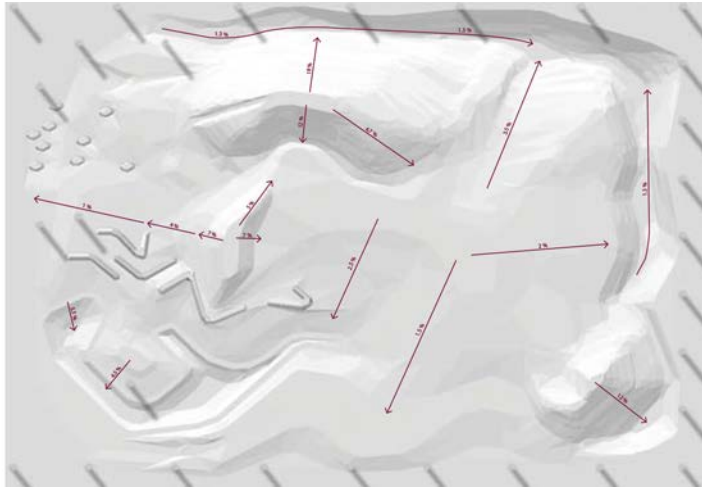


Figure 10. Schematic drainage diagram of proposed landforms.

Source: Melvin 2012.

Implications for Neighborhood Context

Nearby pedestrian trails should be connected with the proposed paths through the schoolyard, increasing walkability to the school. Investing in the schoolyard design of Northview can become a catalyst for other neighborhood improvements. Northeast Community Park, located southeast of Northview School (fig. 11), is currently not a pedestrian friendly destination. A sidewalk extends all but four blocks to the entrance of the park. This section of sidewalk should be completed (fig.11).



Figure 11. Identification of gaps in pedestrian paths led to the proposal of a linked system of trails and sidewalks that increase walkability to and from the school and throughout the neighborhood.

Source: Melvin 2012.

Implications for Natural, Free Play

A learning landscape encourages or inspires the process of learning, not through didactic props, but through the experiential quality of the place. Play involves engaging the mind and body in an activity, for the sake of the activity. Melvin's artistic research process results in a natural, experiential playground design using a variety of path, form and space relationships to offer multiple affordances for free play in a setting made primarily of vegetation and natural materials.

Postscript

Since completion of the Northview Experiential Playground design, the public school district has remediated the waste soil mounds on the site. A portion of the waste soil has been spread evenly to create a gently sloped, featureless turf field which will be used for sports play and can be maintained with current district resources. Melvin's identification of breaks in neighborhood pedestrian paths contributed to a successful grant proposal by the school principal, Kingery-Page and colleagues. The grant will fund a schoolyard trail and tree planting around the east field. Construction of the imaginative, experiential playground envisioned by Melvin is not currently planned or budgeted by the school board.

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